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To the Honorable Commissioner of Patents and Trademarks. Please record the attached original documents or copy thereof.

MRE 5-7-98

1. Name of conveying party(ies):

Mitsuhiro HORIKAWA and Masahito WATANABE

Additional name(s) of conveying party(ies) attached?
 yes no

2. Name and address of receiving party(ies)?

Name: NEC CORPORATION

Street Address: 7-1, Shiba 5-chome
Minato-ku, Tokyo, Japan

3. Nature of Conveyance:

Assignment Merger
 Security Agreement Change of Name
 Other

Additional name(s) & address(es) attached?
 yes no

Execution Date: April 28, 1998

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: 04/28/98

A. Patent Application No.(s)

B. Patent No(s).

Additional numbers attached? Yes No

5. Name and address of party to whom correspondence concerning document should be mailed:

J. Frank Osha, Esq.
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, N.W.
Suite 800
Washington, D.C. 20037-3202

6. Total number of applications and patents involved: One

7. Total Fee (37 CFR 3.41): \$ 40.00
 Enclosed. Please charge any underpayment in connection with this Assignment to Deposit Account No. 19-4880.

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9. Statement and Signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

J. Frank Osha, Reg. No. 24,625

May 7, 1998

Date

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10841 U.S. PTO
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05/07/98

PATENT

REEL: 9159 FRAME: 0574

Assignment

Whereas, ~~I~~We, MITSUHIRO HORIKAWA and MASAHITO WATANABE of
Tokyo, Japan

hereinafter called assignor(s), have invented certain improvements in
SEMICONDUCTOR SUBSTRATE AND MANUFACTURING METHOD THEREOF
and executed an application for Letters Patent of the United States of America therefor on
April 28, 19 98 ; and

Whereas, NEC Corporation
7-1, Shiba 5-chome,
Minato-ku, Tokyo, Japan
(assignee), desires to acquire the entire right, title, and interest in the application and invention, and to
any United States patents to be obtained therefor;

Now therefore, for valuable consideration, receipt whereof is hereby acknowledged,

~~I~~We, the above named assignor(s), hereby sell, assign and transfer to the above named assignee, its
successors and assigns, the entire right, title and interest in the application and the invention disclosed
therein for the United States of America, including the right to claim priority under 35 U.S.C. §119, and
~~I~~we request the Commissioner of Patents to issue any Letters Patent granted upon the invention set forth
in the application to the assignee, its successors and assigns; and ~~I~~we will execute without further
consideration all papers deemed necessary by the assignee in connection with the United States application
when called upon to do so by the assignee.

~~I~~We hereby authorize and request my attorneys SUGHRUE, MION, ZINN, MACPEAK & SEAS of
2100 Pennsylvania Avenue, N.W., Washington, D.C. 20037-3202 to insert here in parentheses (Application
number _____, filed _____) the filing date and application
number of said application when known.

Date: 4/28/1998 s/ Mitsuhiko Horikawa 
MITSUHIRO HORIKAWA

Date: 4/28/1998 s/ Masahito Watanabe 
MASAHITO WATANABE

Date: s/ _____

Witness: Date: 4/28/1998 s/ Akio Murano

Date: 4/28/1998 s/ Shiro Mitsu

(Legalization not required for recording but is prima facie evidence of execution under 35 U.S.C. §261)